

WHAT IS CLAIMED:

1. In a system in which an object that is an instance of a user defined type can be persisted in a database store, wherein a definition of the user defined type comprises one or more fields and behaviors, each field having a respective data type, at least one of said fields of the definition being designated as containing data of a type that is to be stored as a file outside of the database store separately from the other fields of the type definition, a method comprising:

receiving a request to store an object that is an instance of the user defined type;

storing the data in said at least one designated field of the instance of the object as a file outside of the database store; and

storing the data in each of the other fields of the instance of the object within the database store.

2. The method recited in claim 1, further comprising providing a link between the data of the fields of the object that are stored within the database store and the data of the field that is stored as a file outside of the database store.

3. The method recited in claim 1, wherein the data of the fields of the object that are stored within the database store are stored as fragments within a column of a table of the database, the column having been designated as the user defined type.

4. The method recited in claim 3, wherein a unique identifier associated with the object is stored in another column of the table in a same row as the data of the fields of the object.

5. The method recited in claim 1, wherein the data in said at least one designated field of the object is stored as a file within a predetermined directory of a file system of a computer on which the database server is executing.

6. The method recited in claim 5, further comprising providing access by an application to the file in which the data of said at least one field is stored outside the database store via the file system of the computer.

7. The method recited in claim 6, wherein said step of providing access by an application to the file in which the data of said at least one field is stored comprises:

receiving a call from the application, via an application programming interface to the file system of the computer, to open the file, wherein the call identifies the field of the object by its identity within the database store;

determining from the identity of the field of the object within the database store a path within the file system of the computer to the file containing the data of that field of the object; and

executing the call to open the file using the determined path.

8. The method recited in claim 7 wherein the file system of the computer comprises a Microsoft NTFS file system and wherein the application programming interface to the file system comprises the Win32 application programming interface.

9. The method recited in claim 1, wherein the type of the object is defined as a class in managed code.

10. A method for storing data in a database store of a computer, comprising:  
defining a type of an object that can be persisted in the database store, wherein the type definition comprises fields and behaviors, each field having a respective data type;

designating at least one of the fields of the type definition as containing data of a type that is to be stored as a file outside of the database store and separately from the other fields of the type definition, but without losing its association to said other fields as part of the defined type.

11. The method of claim 10, wherein the type of the object is defined as a class in managed code.

12. The method of claim 10, further comprising:  
receiving a request to store an object that is an instance of the user defined type;  
storing the data in said at least one designated field of the instance of the object as a file outside of the database store; and  
storing the data in each of the other fields of the instance of the object within the database store.

13. The method recited in claim 12, further comprising providing a link between the data of the fields of the object that are stored within the database store and the data of the field that is stored as a file outside of the database store.

14. The method recited in claim 12, wherein the data of the fields of the object that are stored within the database store are stored as fragments within a column of a table of the database, the column having been designated as the user defined type.

15. The method recited in claim 14, wherein a unique identifier associated with the object is stored in another column of the table in a same row as the data of the fields of the object.

16. The method recited in claim 12, wherein the data in said at least one designated field of the object is stored as a file within a predetermined directory of a file system of a computer on which the system is implemented.

17. A system comprising:

a database store in which an object that is an instance of a user defined type can be persisted, wherein a definition of the user defined type comprises one or more fields and behaviors, each field having a respective data type, at least one of said fields of the definition being designated as containing data of a type that is to be stored as a file outside of the database store separately from the other fields of the type definition; and

a database engine that receives a request to store an object that is an instance of the user defined type and that, in response, stores the data in said at least one designated field of the instance of the object as a file outside of the database store and stores the data in each of the other fields of the instance of the object within the database store.

18. The system recited in claim 17, wherein the database engine provides a link between the data of the fields of the object that are stored within the database store and the data of the field that is stored as a file outside of the database store.

19. The system recited in claim 17, wherein the data of the fields of the object that are stored within the database store are stored as fragments within a column of a table of the database, the column having been designated as the user defined type.

20. The system recited in claim 19, wherein a unique identifier associated with the object is stored in another column of the table in a same row as the data of the fields of the object.

21. The system recited in claim 17, wherein the data in said at least one designated field of the object is stored as a file within a predetermined directory of a file system of a computer on which the database server is executing.

22. The system recited in claim 21, wherein the system provides access by an application to the file in which the data of said at least one field is stored outside the database store via the file system of the computer.

23. The system recited in claim 22, wherein said access is provided by:

receiving a call from an application, via an application programming interface to the file system of the computer, to open the file, wherein the call identifies the field of the object by its identity within the database store;

determining from the identity of the field of the object within the database store a path within the file system of the computer to the file containing the data of that field of the object; and

executing the call to open the file using the determined path.

24. The system recited in claim 23 wherein the file system of the computer comprises a Microsoft NTFS file system and wherein the application programming interface to the file system comprises the Win32 application programming interface.

25. A computer readable medium having program code stored thereon for use in a system in which an object that is an instance of a user defined type can be persisted in a database store, wherein a definition of the user defined type comprises one or more fields and behaviors, each field having a respective data type, at least one of said fields of the definition being designated as containing data of a type that is to be stored as a file outside of the database store

separately from the other fields of the type definition, said program code, when executed on a computer system, causing the computer system to:

receive a request to store an object that is an instance of the user defined type;

store the data in said at least one designated field of the instance of the object as a file outside of the database store; and

store the data in each of the other fields of the instance of the object within the database store.

26. The computer readable medium recited in claim 25, wherein the program code further causes the computer to provide a link between the data of the fields of the object that are stored within the database store and the data of the field that is stored as a file outside of the database store.

27. The computer readable medium recited in claim 25, wherein the program code further causes the data of the fields of the object that are stored within the database store to be stored as fragments within a column of a table of the database, the column having been designated as the user defined type.

28. The computer readable medium recited in claim 27, wherein the program code further causes the computer to store a unique identifier associated with the object in another column of the table in a same row as the data of the fields of the object.

29. The computer readable medium recited in claim 25, wherein the program code causes the computer to store the data in said at least one designated field of the object as a file within a predetermined directory of a file system of a computer on which the system is implemented.

30. The computer readable medium recited in claim 29, wherein the program code further causes the computer to provide access by an application to the file in which the data of said at least one field is stored outside the database store via the file system of the computer.

31. The computer readable medium recited in claim 30, wherein the program code causes the computer to provide access by an application to the file in which the data of said at least one field is stored by:

receiving a call from the application, via an application programming interface to the file system of the computer, to open the file, wherein the call identifies the field of the object by its identity within the database store;

determining from the identity of the field of the object within the database store a path within the file system of the computer to the file containing the data of that field of the object; and

executing the call to open the file using the determined path.

32. The computer readable medium recited in claim 31 wherein the file system of the computer comprises a Microsoft NTFS file system and wherein the application programming interface to the file system comprises the Win32 application programming interface.

33. The computer readable medium recited in claim 25, wherein the type of the object is defined as a class in managed code.